

tions would hardly be deemed favorable for producing an intellectual genius, a master in science, whom all peoples on earth delight to honor. That Faraday attained such eminence is plainly due to two controlling factors in his moral nature, an intense love for the truths of nature and indefatigable perseverance, both of which were applied to overcoming obstacles that had baffled many. Faraday's first menial position with the rather haughty Davy, their travels on the continent, which afforded Davy's "valet" so much distress as to partly counterbalance the advantages; Faraday's early studies at the Royal Institution, becoming so noteworthy as to arouse some jealousy in Davy, who, however, soon learned to appreciate the rising philosopher; the simple life of the assistant with his bride in two rooms at the top of the Royal Institution, on £100 a year; his admission into the Royal Society; all these interesting details are narrated in the first two chapters. Then follows an account of the masterly researches in electricity and magnetism, which for convenience is divided into three periods; two chapters are devoted to the circumstances of his later life and to his views on the pursuit of science and on education, and a final chapter deals sympathetically with the religious views of the simple-minded Sandemanian.

Through the pages of the volume are interspersed letters written by Faraday to his intimate friends, facsimiles of the rude sketches of novel apparatus drawn in his note-books, and a few woodcuts of scenes and objects associated with him.

Dr. Thompson remarks that he never ceases to regret that he never met Faraday, but no one of those who did know him has so well portrayed him. A charming portrait of Faraday etched by Dr. Thompson forms the frontispiece to a biography that ought to be studied by every one interested in the development of the physical sciences. HENRY CARRINGTON BOLTON.

TEXT-BOOK OF MEDICAL AND PHARMACEUTICAL CHEMISTRY. BY ELIAS H. BARTLEY, B.S., M.D., Ph.G. Fifth Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son and Co. 1898. 738 pp. Price \$3.00.

The demand for a fifth edition of a work is a most substantial tribute to its merit. A quality that has largely contributed to create such a demand, in this instance, is that the subject-matter of Prof. Bartley's work is especially adapted to meet the

requirements of those for whom the book is designed. It is not too voluminous for the medical and pharmaceutical student nor too foreign to his interests.

In Part 1 (about 70 pages) the author presents the fundamental facts of chemical physics. Part 2 (about 40 pages) is devoted to theoretical chemistry, followed in Part 3 (nearly 200 pages) by descriptive inorganic chemistry. The author adopts Mendelejeff's classification of the elements, at the same time retaining the distinction of metals and non-metals. Part 4 (234 pages) is occupied with descriptive organic chemistry, including vegetable and animal proximate principles. The last section of the text, Part 5 (137 pages), is devoted to physiological and clinical chemistry. The author's familiarity with the subject and good judgment in the selection of material are well illustrated in the chapter on foods and diets which contains in less than thirty pages an unusually comprehensive and yet simple presentation of the chemistry of these subjects.

It is to be regretted that the author does not insist upon numerical urinary standards. An attempt to judge of the amounts of various constituents of urine by observing the bulks formed when they are precipitated is of little real value. Such methods are not chemical analysis and have no place in a chemical text-book. Moreover, they rob the clinician of what service a real knowledge might render.

The historical lists of tests for albumin and sugar in urine, which the text records, could with advantage be replaced by descriptions of selected methods. It is the more desirable, in this instance, since these tests are so important and yet confusing to those unaccustomed to urine analysis.

An appendix of twenty pages containing various tables increases the value of the book for reference, while a glossary and complete index render its subject-matter readily available. It is not speaking too highly of Prof. Bartley's work to say that it takes first rank among text-books on medical and pharmaceutical chemistry.

E. E. SMITH.

ESSENTIALS OF MATERIA MEDICA, THERAPEUTICS, AND PRESCRIPTION WRITING. Saunders' Question-Compends, No. 7. BY HENRY MORRIS, M.D. Fifth Edition. 288 pages. Philadelphia: W. B. Saunders. Price \$1.00.

This little book belongs to a class which has become very